

13

be any data, e.g., a GUI (graphical user interface) or other information presented in a fashion associated with single panel displays.

Referring now to FIG. 8A, the portable computer 100 of FIG. 7 is shown as having front cover 300 in the open (non-default) position. Rear display panel 500B, on the left, is now visible. Rear panel display 500B is the other display panel contained within front cover 300, and is functionally analogous to front display panel 500A. Display screen 600 is shown on the right, coupled to palmtop computer 100, and is also functionally analogous to either display panel 500A or 500B.

Still referring to FIG. 8A, by virtue of the orientation of front cover 300, display control circuit 200 automatically deactivates originally activated front flexible display panel 500A and flexible touch sensor 501A, and activates rear flexible display panel 500B of front cover 300 and flexible touch sensor 501B, disposed beneath flexible flat display panel 500B, as shown in FIG. 5A. Additionally, display control circuitry 200 activates now visible flexible display panel 600 and flexible touch sensor 601, disposed beneath flexible display panel 600, analogous to flexible display panel 500 and flexible touch sensor 501 of FIG. 6A and FIG. 6B. When front flexible display panel 500A is deactivated, the data or information previously viewable, e.g., the month of December 2000 as shown in FIG. 7, is reoriented so as to be identically viewable on rear flexible display panel 500B, as shown in FIG. 8A. Additionally, flexible display panel 600 is activated thereby providing another viewable screen through which new data or information may be displayed. In the current example, the information is a monthly calendar, e.g., the month of January 2001, and it is shown on the right of FIG. 8. Of course, the user may display any information on either of the multiple display panels.

It should be appreciated that by providing a second display panel to the functionality of a portable computer system, the amount of viewable surface area has been effectively doubled, therefore providing increased functionality to the portable computer system.

In one example, a user may display a calendar on one panel, and notes regarding the calendar on the other. In another example, a user may display a day planner on one panel and information about the daily plans on the other. In yet another example, a user may display the GUI (graphical user interface) on one panel, and have the selected icon's associated application appear on the other screen, reducing the time required to switch back and forth from the GUI to associated applications as is customary when using a conventional portable computer system. In still another example, a user would be able to view a graphic e.g., elongated pictures, wide diagrams, complex and expansive formulas, and the like, in their entirety, no longer having to scroll or switch from one section or screen to another.

In another example, a user may wish to have multiple daily schedules, or multiple weekly, monthly, or yearly calendars displayed, thereby reducing the switching of screens normally associated with portable computers not configured with the present invention. In yet another example, a user may wish to view multiple financial documents, e.g., annual income statements from various years. In another example, a user may wish to view multiple web pages. In still another example, and by utilizing the networking functionalities contained within the portable computer, a user connected and communicating with other individuals via a network, could have information from other portable computers displayed on one or more panels and compared with or integrated into information contained

14

within the other panels. In fact, a portable computer configured with multiple flexible display panels, in one embodiment of the present invention, provides, to a user, an almost endless array of functional configurations.

FIG. 8B is a front facing illustrated perspective view of portable computer system 100, in one embodiment of the present invention. In this embodiment, front cover 300 is configured with the left side portion of flexible display panel 500 disposed upon the inside surface of the front cover, and as such, is not visible. Additionally, the main body portion of portable computer system 100 is configured with the right side portion of flexible display panel 500. Front cover 300 is adapted to be rotated about the axis or hinge as indicated by the arrow.

FIG. 8C shows the portable computer system 100 of FIG. 8B with the front cover 300 in an opened position. In this embodiment, left side portion 500L and right side portion 500R of flexible display panel 500 is not segmented, such that when front cover 300 is in the open position, a contiguous panel display is presented to the user. Shown as being displayed to the user are two calendars, e.g., the months of December 2000 and January 2001 which are analogous to the calendars of FIG. 8A.

FIG. 8D is a bottom side profile perspective view of portable computer system 100 configured with a foldable flexible display panel. It should be appreciated that when the foldable display panel is fully extended in the open position, three display panel functionality is achieved. Flexible display portion 500, on the left, is adapted to be rotated about the axis as indicated by the arrows. Flexible display portion 501, on the right, is adapted to rotate about the axis as indicated by the arrows.

It should be further appreciated that while in one embodiment of the present invention, the front cover is shown as configured with a flexible touch panel sensor disposed beneath the flexible touch screen, as described in FIG. 8A, in another embodiment there may be a flexible display panel disposed within the front cover without an accompanying touch sensor. By virtue of the physical properties of the flexible display panel, a flexible touch panel may be disposed within the main body of the portable computer system, such that when stylus contact, or other appropriate contact is made with the flexible display panel disposed within the front cover, the point of contact is transferred to the flexible touch sensor disposed within the main body portion of the portable computer system.

FIG. 9 is a block diagram of the circuitry of the palmtop computer 100 in FIGS. 6A and 6B, in one embodiment of the present invention. The circuitry depicted is analogous to the described circuitry of FIG. 3D, with the following additions. Display control circuit 200 is added for activating the display panel, as previously described, and is shown as coupled to bus 110. Display device 105, shown as coupled to bus 110 in this embodiment of the present invention, is representative of flexible display panel 500 mounted to portable computer system 100 in FIG. 6A. In one embodiment of the present invention, on-screen cursor control 107, shown as coupled to bus 110, is flexible touch sensor 501, analogous to flexible touch sensor 501 of FIG. 6A.

FIG. 10 is a block diagram of the circuitry of the palmtop computer 100 in FIGS. 7 and 8A, 8B, and 8C in one embodiment of the present invention. The circuitry depicted is analogous to the described circuitry of FIG. 3D, with the following additions. Display control circuit 200 is added for activating the appropriate display panel, as previously described, is shown as coupled to bus 110. Display device 105-A, with coupled front display panel A-1 and rear display